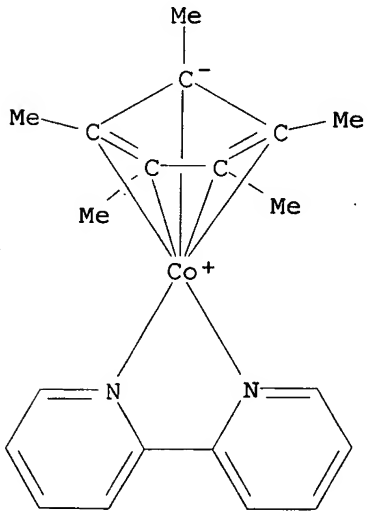
L16 ANSWER 131 OF 260 REGISTRY COPYRIGHT 2007 ACS on STN
RN 186599-61-1 REGISTRY
ED Entered STN: 27 Feb 1997
CN Cobalt, (2,2'-bipyridine-κN1,κN1')[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)
MF C20 H23 Co N2
CI CCS
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties)

Ring System Data

Elemental Analysis EA	Elemental Sequence ES	Size of the Rings SZ	Ring System Formula RF	Ring Identifier RID	RID Occurrence Count
C2Co-C2Co-C2Co-C2Co-C2CoN2-C5N-C5N	CoC2-CoC2-CoC2-CoC2-CoNC2N-NC5-NC5	3-3-3-3-3-5-6-6	C15CoN2	4607.1.1	1



3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 142:114242 CA <<LOGINID::20070215>>
TI Reduced and excited states of the intermediates (α-diimine)(C5R5)Rh in hydride transfer catalysis schemes: EPR and resonance Raman spectroscopy, and comparative DFT calculations of Co, Rh and Ir analogues
AU Sieger, Monika; Kaim, Wolfgang; Stufkens, Derk J.; Snoeck, Theo L.; Stoll, Hermann; Zalis, Stanislav
CS Institut fuer Anorganische Chemie, Universitaet Stuttgart, Stuttgart, D-70550, Germany
SO Dalton Transactions (2004), (22), 3815-3821

CODEN: DTARAF; ISSN: 1477-9226
PB Royal Society of Chemistry
DT Journal
LA English
CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 77
AB The electronic structures of the highly air-sensitive intermediates (N-N)(C5Me5)Rh, (N-N = 2,2'-bipyridine (bpy), 2,2'-bipyrimidine (bpym), 2,2'-bipyrazine (bpz) and 3,3'-bipyridazine (bpdz)) of hydride transfer catalysis schemes were studied through resonance Raman (rR) spectroscopy and through EPR of the reduced forms [(N-N)(C5Me5)Rh]∘-. The rR results are compatible with a predominant MLCT character of the lowest excited states [(N-N)(C5Me5)Rh]*, and the EPR spectra of the reduced states reveal the presence of anion radical ligands, (N-N)∘-, coordinated by unusually electron rich rhodium(I) centers. The exptl. results, including the assignments of electronic transitions, are supported by DFT calcns. for the model compds. [(N-N)(C5H5)Rh]o/∘-, N-N = bpy or bpym. The calcns. confirm a significant but not complete mixing of metal and ligand orbitals in the LUMO which still retains about 3/4 π*(N-N) character. DFT calcns. on (bpy)(C5H5)M and [(bpy)(C5H5)ClM]+, M = Co, Rh, Ir, agree with the exptl. results such as the differences between the homologues, especially the different LUMO characters of the precursor cations in the case of Co (→dM) and Rh or Ir (→π*(bpy)).
ST reduced excited state intermediate diimine cyclopentadienyl rhodium hydride transfer; catalysis hydride transfer diimine cyclopentadienyl rhodium complex; EPR resonance Raman spectra DFT diimine rhodium cobalt iridium
IT Density functional theory
(B3LYP; reduced and excited states of intermediates in cyclopentadienylrhodium diimine in hydride transfer catalysis schemes and EPR, resonance Raman spectroscopy, and comparative DFT calcns. of cobalt, rhodium and iridium analogs)
IT Charge transfer transition
ESR (electron spin resonance)
Electronic structure
Electronic transition
Excited state
Hydride transfer catalysts
LUMO (molecular orbital)
Resonance Raman spectra
(reduced and excited states of intermediates in cyclopentadienylrhodium diimine in hydride transfer catalysis schemes and EPR, resonance Raman spectroscopy, and comparative DFT calcns. of cobalt, rhodium and iridium analogs)
IT Raman spectroscopy
(resonance; reduced and excited states of intermediates in cyclopentadienylrhodium diimine in hydride transfer catalysis schemes and EPR, resonance Raman spectroscopy, and comparative DFT calcns. of cobalt, rhodium and iridium analogs)
IT 108120-99-6 108121-03-5 138749-28-7 138749-30-1
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(reduced and excited states of intermediates in cyclopentadienylrhodium diimine in hydride transfer catalysis schemes and EPR, resonance Raman spectroscopy, and comparative DFT calcns. of cobalt, rhodium and iridium analogs)
IT 34475-06-4 46930-73-8 64506-26-9 84180-60-9 91742-27-7
93560-38-4 95392-53-3 102211-72-3 108120-95-2 123421-11-4
145638-41-1 178316-74-0 186599-61-1 603136-08-9 603136-09-0
820969-51-5 820969-55-9 820969-68-4 820969-69-5 820969-70-8
820969-71-9 820969-72-0 820969-73-1

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(reduced and excited states of intermediates in cyclopentadienylrhodium diimine in hydride transfer catalysis schemes and EPR, resonance Raman spectroscopy, and comparative DFT calcns. of cobalt, rhodium and iridium analogs)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Andrae, D; Theor Chim Acta 1990, V77, P123 CAPLUS
(2) Barone, V; Recent Advances in Density Functional Methods, Part 1 1996
(3) Becke, A; Phys Rev A 1988, V38, P3098 CAPLUS
(4) Becke, A; Phys Rev A 1988, V38, P3098 CAPLUS
(5) Berger, S; Inorg Chem 2004, V43, P1530 CAPLUS
(6) Chardon-Noblat, S; J Electroanal Chem 1993, V352, P213 CAPLUS
(7) Chung, Y; Inorg Chem 1985, V24, P1965 CAPLUS
(8) Cosnier, S; J Chem Soc, Chem Commun 1989, V1259
(9) Ernst, S; J Am Chem Soc 1986, V108, P3578 CAPLUS
(10) Frantz, S; Dalton Trans 2003, P3370 CAPLUS
(11) Frisch, M; Gaussian 03, Revision B 2 2003
(12) Godard, C; Chem Commun 2003, P2332 CAPLUS
(13) Guerra, C; Theor Chim Acc 1998, V99, P391 CAPLUS
(14) Hariharan, P; Theor Chim Acta 1973, V28, P213 CAPLUS
(15) Iron, M; J Am Chem Soc 2003, V125, P11430 CAPLUS
(16) Kaim, W; Inorg Chem 1994, V33, P4453 CAPLUS
(17) Kaim, W; Inorg Chim Acta 1993, V210, P159 CAPLUS
(18) Kaim, W; J Am Chem Soc 1990, V112, P173 CAPLUS
(19) Kaim, W; J Organomet Chem 1996, V524, P195 CAPLUS
(20) Kaim, W; J Phys Chem 1986, V90, P5010 CAPLUS
(21) Kaim, W; New Trends in Molecular Electrochemistry 2004, P127 CAPLUS
(22) Kaim, W; Organometallics 2003, V22, P2240 CAPLUS
(23) Kolle, U; Angew Chem 1987, V99, P572
(24) Kolle, U; Angew Chem, Int Ed Engl 1987, V26, P568
(25) Kolle, U; Chem Ber 1989, V122, P1869
(26) Ladwig, M; J Organomet Chem 1991, V419, P233 CAPLUS
(27) Ladwig, M; J Organomet Chem 1992, V439, P79 CAPLUS
(28) Neto, N; Spectrochim Acta 1990, V46A, P705 CAPLUS
(29) Perdew, J; Phys Rev A 1986, V33, P8822
(30) Perdew, J; Phys Rev B 1992, V45, P13244
(31) Schipper, P; J Chem Phys 2000, V112, P1344 CAPLUS
(32) Stephens, P; J Phys Chem 1994, V98, P11623 CAPLUS
(33) Strukl, J; Spectrochim Acta 1971, V27A, P209
(34) Stufkens, D; Coord Chem Rev 1990, V104, P39 CAPLUS
(35) van Gisbergen, S; Comput Phys Commun 1999, V118, P119 CAPLUS
(36) Westerhausen, D; Angew Chem 1992, V104, P1496 CAPLUS
(37) Westerhausen, D; Angew Chem, Int Ed Engl 1992, V31, P1529
(38) Zalis, S; Inorg Chem 2003, V42, P5185 CAPLUS
(39) Zerbi, G; Spectrochim Acta 1968, V24A, P511
(40) Ziessel, R; Angew Chem 1991, V103, P863 CAPLUS
(41) Ziessel, R; Angew Chem, Int Ed Engl 1991, V30, P844
(42) Ziessel, R; J Am Chem Soc 1993, V115, P118 CAPLUS
(43) Ziessel, R; J Chem Soc, Chem Commun 1988, P16 CAPLUS

REFERENCE 2

AN 132:293866 CA <<LOGINID::20070215>>
TI Synthesis, Structure, and Reactivity of [C5Me5CoLL'] Complexes with L = Pyridine and L' = Olefin or L-L' = Bipyridine
AU Lenges, Christian P.; White, Peter S.; Marshall, Will J.; Brookhart, Maurice
CS Department of Chemistry Venable and Kenan Laboratories, The University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599-3290, USA
SO Organometallics (2000), 19(7), 1247-1254
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal

LA English
CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75
AB The bis(olefin) complex [C5Me5Co(C2H3SiMe3)2] (6) reacts with pyridine at 22° to give the pyridine olefin complex [C5Me5Co(C2H3SiMe3)(C5H5N)] (7). The addition of excess pyridine does not result in the formation of a bis(pyridine) adduct. Thermolysis of solns. of 7 in benzene-d6 results in catalytic H/D exchange which incorporates deuterium from the solvent into coordinated olefin. Pyridine dissociation generates a 16-electron intermediate which is formulated as the reactive species. At long times deuteration of the coordinated pyridine is also observed via shuttling of deuterium from the solvent to the olefin ligand and then to the pyridine. The reaction of 6 with pyridine-d5 results in the analog 7-d5. Thermolysis of 7-d5 shows preference for H/D exchange at the ortho positions of coordinated pyridine, which has been explained by the formation of η2-coordinated intermediates. Reaction of 4-phenylpyridine with 6 yields the analogous pyridine adduct [C5Me5Co(C2H3SiMe3)(4-C6H5-C5H4N)] (12), which was characterized by x-ray structural anal. H/D exchange catalysis is also observed using this pyridine derivative In a reaction of bipyridine with 6 clean olefin substitution is observed at 22° to generate violet, highly air sensitive [C5Me5Co(bipy)] (13). Complex 13 has been characterized by x-ray structural anal.
ST silylvinyl cobalt cyclopentadienyl complex reaction pyridine bipyridine; pentamethylcyclopentadienylcobalt silylvinyl pyridine complex prepn hydrogen deuterium exchange; crystal mol structure silylvinyl phenylpyridine pentamethylcyclopentadienylcobalt bipyridine complex
IT Exchange reaction
(of hydrogen with deuterium; of silylvinyl pentamethylcyclopentadienylcobalt pyridine complexes)
IT Crystal structure
Molecular structure
(of silylvinyl pentamethylcyclopentadienylcobalt phenylpyridine and pentamethylcyclopentadienylcobalt bipyridine complexes)
IT 186599-61-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
IT 264259-98-5P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, crystal structure, and hydrogen/deuterium exchange reaction of)
IT 264260-00-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, thermolysis, and hydrogen/deuterium exchange reaction of)
IT 188827-34-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with pyridine or bipyridine)
IT 110-86-1, Pyridine, reactions 366-18-7, 2,2'-Bipyridine 939-23-1, 4-Phenylpyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis, structure, and reactivity of pentamethylcyclopentadienylcobalt complexes with pyridine, olefin, or bipyridine)
RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Anon; International Tables for X-Ray Crystallography 1974, VIV
(2) Bergman, R; J Am Chem Soc 1982, V104, P352
(3) Bergman, R; Science 1984, V223, P902 CAPLUS
(4) Bonnemann, H; Angew Chem, Int Ed Engl 1978, V17, P505
(5) Bonnemann, H; Angew Chem, Int Ed Engl 1985, V24, P248
(6) Brunner, H; J Organomet Chem 1991, V417, PC63 CAPLUS
(7) Cagle, F; Acta Crystallogr 1948, V1, P158 CAPLUS
(8) Fachinetti, G; J Chem Soc, Chem Commun 1988, P1100 CAPLUS
(9) Fruhauf, H; Chem Rev 1997, V97, P523

(10) Gabe, E; J Appl Crystallogr 1989, V22, P384 CAPLUS
(11) Graham, W; J Am Chem Soc 1982, V104, P3723
(12) Green, M; J Chem Soc, Dalton Trans 1979, P355 CAPLUS
(13) Greulich, S; Inorg Chem 1996, V35, P3998 CAPLUS
(14) Gross, M; J Am Chem Soc 1981, V103, P192 CAPLUS
(15) Gross, M; Organometallics 1982, V1, P732 CAPLUS
(16) Heller, B; J Chem Soc, Chem Commun 1995, P179 CAPLUS
(17) Jones, W; Acc Chem Res 1989, V22, P91 CAPLUS
(18) Jones, W; J Organomet Chem 1994, V472, P311 CAPLUS
(19) Jones, W; Organometallics 1983, V2, P686 CAPLUS
(20) Jones, W; Organometallics 1992, V11, P2698 CAPLUS
(21) Jordan, R; J Am Chem Soc 1989, V111, P778 CAPLUS
(22) Jutzi, P; Organometallics 1993, V12, P2980 CAPLUS
(23) Kaim, W; Inorg Chem 1994, V33, P4453 CAPLUS
(24) Kaim, W; J Am Chem Soc 1992, V114, P5693 CAPLUS
(25) Kaim, W; J Organomet Chem 1996, V524, P195 CAPLUS
(26) Kolle, U; Chem Ber 1984, V117, P743
(27) Kolle, U; J Organomet Chem 1980, V184, P379
(28) Kolle, U; Organometallics 1986, V5, P980
(29) Kuhn, N; J Organomet Chem 1987, V320, P391 CAPLUS
(30) Ladwig, M; J Organomet Chem 1991, V419, P233 CAPLUS
(31) Ladwig, M; J Organomet Chem 1992, V439, P79 CAPLUS
(32) Lautens, M; Chem Rev 1996, V96, P49 CAPLUS
(33) Lenges, C; Angew Chem, Int Ed Engl 1999, V38, P552 CAPLUS
(34) Lenges, C; J Am Chem Soc 1998, V120, P6965 CAPLUS
(35) Lenges, C; J Am Chem Soc 1999, V121, P4385 CAPLUS
(36) Lenges, C; J Am Chem Soc 1999, V121, P6616 CAPLUS
(37) Lenges, C; J Organomet Chem 1997, V528, P199 CAPLUS
(38) Macazaga, M; J Organomet Chem 1986, V310, P249 CAPLUS
(39) Macomber, D; Organometallics 1985, V4, P1485 CAPLUS
(40) Merritt, L; Acta Crystallogr 1956, V9, P801 CAPLUS
(41) Pangborn, A; Organometallics 1996, V15, P1518 CAPLUS
(42) Poli, R; Eur J Inorg Chem 1999, P877 CAPLUS
(43) Reedijk, J; Comprehensive Coordination Chemistry 1987, V2
(44) Schneider, J; Chem Ber 1995, V128, P321 CAPLUS
(45) Smith, M; J Am Chem Soc 1996, V118, P11119 CAPLUS
(46) tom Dieck, H; J Organomet Chem 1985, V291, P71 CAPLUS
(47) Tomasik, P; Pyridine Metal Complexes 1985, V14
(48) Varela, J; J Am Chem Soc 1998, V120, P12147 CAPLUS
(49) Vollhardt, K; Acc Chem Res 1977, V10, P1 CAPLUS
(50) Vollhardt, K; Angew Chem, Int Ed Engl 1977, V16, P708
(51) Vollhardt, K; Angew Chem, Int Ed Engl 1984, V23, P539
(52) Vollhardt, K; J Am Chem Soc 1986, V108, P2481
(53) Wakatsuki, Y; J Chem Soc, Dalton Trans 1978, P1278 CAPLUS
(54) Werner, H; Chem Ber 1977, V110, P3481 CAPLUS
(55) Werner, H; Helv Chim Acta 1977, V60, P326 CAPLUS
(56) Werner, H; J Organomet Chem 1981, V209, P211 CAPLUS
(57) Werner, H; J Organomet Chem 1981, V209, P211 CAPLUS
(58) Werner, H; J Organomet Chem 1982, V240, P179 CAPLUS

REFERENCE 3

AN 126:144381 CA <<LOGINID::20070215>>
TI Electron transfer and chloride ligand dissociation in complexes [(C5Me5)ClM(bpy)]+/[(C5Me5)M(bpy)]n (M = Co, Rh, Ir; n = 2+, +, 0, -): A combined electrochemical and spectroscopic investigation
AU Kaim, Wolfgang; Reinhardt, Ralf; Waldhoer, Eberhard; Fiedler, Jan
CS Institut fuer Anorganische Chemie der Universitaet, Pfaffenwaldring 55, Stuttgart, D-70550, Germany
SO Journal of Organometallic Chemistry (1996), 524(1-2), 195-202
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier
DT Journal
LA English

CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 72, 77

AB In contrast to the rapid and chemical reversible two-electron ECE' reductive elimination reaction [(C5Me5)ClM(bpy)]+ + 2e-→(C5Me5)M(bpy) + Cl-, M = Rh or Ir, the analogous cobalt system exhibits two sep. one-electron steps (EC + E' process) with a persistent, EPR-spectroscopically characterized cobalt(II) intermediate [(C5Me5)Co(bpy)]+. Within the series of coordinatively unsatd. homologous species (C5Me5)M(bpy), the cobalt derivative exhibits the smallest and the iridium homolog the largest metal(I)-to-bpy electron transfer in the ground state, as evident from electrochem. potentials and long-wavelength absorption data. A comparison within that homologous series indicates why the rhodium system, with its intermediate position, is most suitable for hydride transfer catalysis.

ST electron transfer chloride ligand dissocn cyclopentadienylcobalt; cobalt rhodium iridium pentamethylcyclopentadienyl bpy chloride; reductive elimination pentamethylcyclopentadienylcobalt rhodium iridium chloride; electrochem potential pentamethylcyclopentadienylcobalt rhodium iridium chloride; ESR pentamethylcyclopentadienylcobalt rhodium iridium chloride bipyridine

IT Cyclic voltammetry
ESR (electron spin resonance)
Electric potential
Electron transfer
IR spectra
(electron transfer and chloride ligand dissociation in complexes pentamethylcyclopentadienylcobalt -rhodium, -iridium chloride bpy complexes by a combined electrochem. and spectroscopic investigation)

IT 90541-04-1 108120-99-6 115565-17-8 138749-27-6 145638-41-1 186599-61-1
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(electron transfer and chloride ligand dissociation in complexes pentamethylcyclopentadienylcobalt -rhodium, -iridium chloride bpy complexes by a combined electrochem. and spectroscopic investigation)

IT 366-18-7, 2,2'-Bipyridine
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electron transfer and chloride ligand dissociation in complexes pentamethylcyclopentadienylcobalt -rhodium, -iridium chloride bpy complexes by a combined electrochem. and spectroscopic investigation)

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD

(1) Albright, T; J Am Chem Soc 1981, V103, P4787 CAPLUS
(2) Astruc, D; Electron Transfer and Radical Processes in Transition-Metal Chemistry 1995
(3) Bond, A; Modern Polarographic Methods in Analytical Chemistry 1980
(4) Bruns, W; Inorg Chem 1995, V34, P663 CAPLUS
(5) Bruns, W; Molecular Electrochemistry of Inorganic, Bioinorganic and Organometallic Compounds 1993, P255 CAPLUS
(6) Caix, C; J Electroanal Chem 1993, V362, P301 CAPLUS
(7) Chardon-Noblat, S; J Electroanal Chem 1993, V352, P213 CAPLUS
(8) Cosnier, S; J Chem Soc, Chem Commun 1989, P1259 CAPLUS
(9) Fordyce, W; Inorg Chem 1982, V21, P1023 CAPLUS
(10) Greulich, S; Inorg Chem 1996, V35, P3998 CAPLUS
(11) Greulich, S; Unpublished results
(12) Gross, M; J Am Chem Soc 1981, V103, P192 CAPLUS
(13) Gross, M; Organometallics 1982, V1, P732 CAPLUS
(14) Hosmane, N; Organometallics 1993, V12, P3785 CAPLUS
(15) Kaim, W; Inorg Chem 1994, V33, P4453 CAPLUS
(16) Kaim, W; J Am Chem Soc 1990, V112, P173 CAPLUS
(17) Kaim, W; J Am Chem Soc 1992, V114, P5693 CAPLUS
(18) Kolle, U; Angew Chem 1987, V99, P572
(19) Kolle, U; Angew Chem Suppl 1982, P230
(20) Kolle, U; Angew Chem, Int Ed Engl 1987, V26, P568

(21) Kolle, U; Chem Ber 1984, V117, P743
(22) Kolle, U; Chem Ber 1989, V122, P1869
(23) Kolle, U; J Organomet Chem 1980, V184, P379
(24) Kolle, U; New J Chem 1992, V16, P157
(25) Konig, E; Chem Phys Lett 1970, V5, P87
(26) Krejcik, M; J Electroanal Chem 1991, V317, P179 CAPLUS
(27) Ladwig, M; J Organomet Chem 1991, V419, P233 CAPLUS
(28) Ladwig, M; J Organomet Chem 1992, V439, P79 CAPLUS
(29) Lever, A; Inorganic Electronic Spectroscopy 1984
(30) Maroney, M; J Am Chem Soc 1984, V106, P4144 CAPLUS
(31) Reinhardt, R; Wasserstoff als Energietrager 1994, P133 CAPLUS
(32) Reinhardt, R; Z Anorg Allg Chem 1993, V619, P1998 CAPLUS
(33) Ruppert, R; J Chem Soc, Chem Commun 1988, P1150 CAPLUS
(34) Steckhan, E; Angew Chem 1990, V102, P445 CAPLUS
(35) Steckhan, E; Angew Chem, Int Ed Engl 1990, V29, P388
(36) Steckhan, E; Organometallics 1991, V10, P1568 CAPLUS
(37) Tom Dieck, H; J Organomet Chem 1985, V291, P71 CAPLUS
(38) Weil, J; Electron Paramagnetic Resonance 1994
(39) Westerhausen, D; Angew Chem 1992, V104, P1496 CAPLUS
(40) Westerhausen, D; Angew Chem, Int Ed Engl 1992, V31, P1529
(41) Youinou, M; J Organomet Chem 1989, V363, P1987
(42) Ziessel, R; Angew Chem 1991, V103, P863 CAPLUS
(43) Ziessel, R; Angew Chem, Int Ed Engl 1991, V30, P844
(44) Ziessel, R; J Am Chem Soc 1993, V115, P118 CAPLUS
(45) Ziessel, R; J Chem Soc, Chem Commun 1988, P16 CAPLUS